



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,012	01/08/2001	Arnon Amir	ARC9-2000-0093-US1	7103

7590 11/17/2003

John L. Rogitz
Rogitz & Associates
750 B Street, Suite 3120
San Diego, CA 92101

EXAMINER

CHAU, COREY P

ART UNIT	PAPER NUMBER
2644	3

DATE MAILED: 11/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/757,012

Applicant(s)

AMIR ET AL.

Examiner

Corey P Chau

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 4, 5, 6, 8, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Fig. 1 in U.S. Patent No. 5477270 to Park.

3. Fig. 1 discloses an apparatus that includes all the limitations recited in Claim 1. Regarding Claim 1, Fig. 1 discloses a camcorder including a sound receiving function having a unified image and sound qualities that consist of a plurality of microphones to receive input sound from the subject (i.e. microphone is disposed at the same position as the camcorder)(Fig. 1, reference 10, 11, and 12; column 1, lines 31-40); and a microcomputer (i.e. computer implemented method) outputs a control signal according to a wide/tele signal so as to represent the distance from the sound source (i.e. determining a gain adjust signal based in part on the person-microphone position) (column 1, lines 61-66), wherein wide/tele signal is the detected position indicated by a direct current (DC) voltage and is applied from a camera section to the microcomputer (i.e. person-microphone position) (column 2, lines 2-6). Audio signals are then adjusted appropriately in the electronic volume controls in accordance with the control signal

produced by the microcomputer, therefore producing a life-like audio output (i.e. gain adjust signal to establish the audio output level) (column 1, lines 46-54).

4. Regarding Claim 2, wide/tele signal (i.e. person-microphone position signal) is derived from a video system (column 1, lines 61-63; column 2, lines 2-6).

5. Claim 3 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos of Claim 1. The image source that is recorded on the camcorder used to adjust the wide/tele signal can be a person's mouth or head (i.e. gain adjust signal is determined based at least partially on at least one of: a distance from a person's mouth to a microphone, a orientation of a person's head relative to the microphone, and a head location relative to a direction of sensitivity of a microphone).

6. Regarding Claim 4, Figure 1 discloses a camcorder that records a unified image and sound quality (i.e. recording at least one calibration person-microphone position and recording at least one calibration audio level), therefore generating a mapping (column 1, lines 17-38).

7. Regarding Claim 5, Figure 1 discloses a mapping used to generated a signal to produce a change in the electronic volume associated with the recorded image (i.e. using the mapping to generate at least one gain adjust signal based on the at least one person-microphone position signal) (Fig. 2; Table 1; column 2, lines 2-46).

8. All elements of Claim 6 are comprehended by Claim 1. Claim 6 is rejected for reasons stated above apropos of Claim 1. The "microcomputer receives a wide/tele signal, which signal changes depending on the position of the zoom lens in the camera section, and microcomputer outputs the control signal according to the wide/tele signal

so as to represent the distance from the sound source" (i.e. person-microphone position signal is derived from a motion sensing system or a position sensing system or an orientation sensing system or a distance sensing system) (column 1, lines 61-66).

9. All elements of Claim 8 are comprehended by Claim 1. Claim 8 is rejected for reasons stated above apropos of Claim 1.

10. Claim 11 is essentially similar to Claims 1 and 2 and is rejected for the reasons stated above apropos of Claims 1 and 2. The microcomputer of Figure 1 is a digital processor.

11. Claim 12 is essentially similar to Claim 1, 2, and 3 and is rejected for the reasons stated above apropos of Claims 1, 2, and 3.

12. Claim 13 is essentially similar to Claim 1, 2, 3, and 4 and is rejected for the reasons stated above apropos of Claims 1, 2, 3, and 4.

13. Claim 14 is essentially similar to Claim 1, 2, 3, 4 and 5 and is rejected for the reasons stated above apropos of Claims 1, 2, 3, 4 and 5.

14. Claim 15 is essentially similar to Claim 1, 2, and 8 and is rejected for the reasons stated above apropos of Claims 1, 2, and 8.

15. Claim 17 is essentially similar to Claims 1 and 2 and is rejected for the reasons stated above apropos of Claims 1 and 2. The microcomputer of Figure 1 is a computer program product. The microcomputer is incorporated in a camcorder that generates video signals (i.e. signals representative of light reflected).

16. Claim 18 is essentially similar to Claim 1, 2, and 4 and is rejected for the reasons stated above apropos of Claims 1, 2, and 4.

17. Claim 19 is essentially similar to Claim 1, 2, 4, and 5 and is rejected for the reasons stated above apropos of Claims 1, 2, 4, and 5.
18. Claim 20 is essentially similar to Claim 1 and 2 and is rejected for the reasons stated above apropos of Claims 1 and 2. Figure 1 is an audio system because it contains all elements of Claim 20 (Figure 1, reference 10, 13, and 21).
19. Claim 21 is essentially similar to Claim 1, 2, and 3 and is rejected for the reasons stated above apropos of Claims 1, 2, and 3.
20. Claim 22 is essentially similar to Claim 1, 2, and 4 and is rejected for the reasons stated above apropos of Claims 1, 2, and 4.
21. Claim 24 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos of Claims 1 Figure 1 is an audio system because it contains all elements of Claim 24 (Figure 1, reference 10, 13, and 21).
22. Claim 25 is essentially similar to Claim 1 and 2 and is rejected for the reasons stated above apropos of Claims 1 and 2.

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 7 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fig. 1 in U.S. Patent No. 5477270 to Park in view of U.S. Patent No. 6545601 to Monroe.

25. Figure 1 discloses all elements of Claim 7 except for the laser system used to derived a person-microphone position signal. Monroe discloses a laser range finder that can measure distance to object/personnel may be incorporated to further expand and enhance the capability of a sensor component (i.e. camcorder). The laser range finder permits the tracking system to locate objects in a precise manner and then provide control signals to permit accurate surveillance and monitoring, such as zooming (i.e. wide/tele) the camera (column 15, lines 10-27). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the camcorder of Figure 1 with the teaching of Monroe to incorporate a laser range finder (i.e. laser system) onto the camcorder to measure distance to object in a precise manner and then provide control signals to permit accurate zooming of the camcorder. Therefore, providing a wide/tele signal wherein the microcomputer outputs the control signal according to the wide/tele signal so as to represent the distance from the sound source.

26. Claim 26 is essentially similar to Claim 1, 2, 6 and 7 and is rejected for the reasons stated above apropos of Claims 1, 2, 6, and 7.

27. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fig. 1 in U.S. Patent No. 5477270 to Park in view of U.S. Patent No. 5164840 to Kawamura et al (hereafter as Kawamura).

28. Figure 1 discloses all elements of Claim 9 except for the gain adjust signal determined after the recording of the person. Kawamura discloses an apparatus for generating sound field control codes to control the sound field that is produced by loudspeakers which are reproducing audio signals derived from the sound track of a video recorder, such that the acoustic impression that is conveyed to a listener/viewer will be matched to the video image that are being concurrently produced. The control codes can be generated in accordance with the zoom factor of a zoom lens of a video camera which is producing a video signal that is being recorded on the tape together with the command codes. "In this way, upon playback of the video tape (i.e. gain adjust signal determined after the recording of the person), successive sound fields can be generated which vary in accordance with the changes in object size in a display image, such changes resulting from "zooming" the camera lens. The reproduced sound volume can thereby, for example, be varied in accordance with the zoom factor (i.e. wide/tele)." (Figs 1 and 3; column 1, lines 27-35; column 2, lines 57-68; column 7, line 14 – column 8, line 20). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the camcorder of Figure 1 with the teaching Kawamura to incorporate an apparatus before the microcomputer and volume controls to generate sound field control codes in accordance with the zoom factor of a zoom lens of a video camera which is producing a video signal that is being recorded on the tape together with the control codes. Where upon playback of the videotape, the reproduced sound volume can thereby be varied in accordance with the zoom factor. Therefore, the sound field variation circuit of Karamura can operate with Figure 1's

microcomputer to receive the zoom factor signal and audio signals are then adjusted appropriately in the electronic volume controls in accordance with the control signal produced by the microcomputer.

29. Claim 16 is essentially similar to Claim 1, 2, and 9 and is rejected for the reasons stated above apropos of Claims 1, 2, and 9.

30. Claims 10, 23, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fig. 1 in U.S. Patent No. 5477270 to Park in view of U.S. Patent No. 4747065 to West .

31. Regarding Claim 10, Figure 1 discloses a camcorder (i.e. fast response gain) employed with a conventional digital audio signal processing, but lacks a slow response gain adjust signal determined based on an audio stream. West states an automatic gain control (AGC) (i.e. slow response gain adjust signal) mechanisms are normally used in devices which receives amplitude varying signals, for example speech from a microphone wherein the distance between the microphone and the speaker changes or where individual speakers talk at varying amplitudes. "Automatic gain control mechanisms are helpful to limit the dynamic range over which most of the most complex portion of the signal processing must work, i.e., to prevent amplifiers from saturating from high levels signal while at the same time minimizing the effects of thermal noise introduced by circuitry (column 1, lines 23-39). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the camcorder of Figure 1 with the teaching West to incorporate an automatic gain control between the microphone and amplifier of Figure 1 to limit the dynamic range over which

most of the most complex portion of the signal processing must work, i.e., to prevent amplifiers from saturating from high levels signal while at the same time minimizing the effects of thermal noise introduced by circuitry.

32. Claim 23 is essentially similar to Claim 1, 2, and 10 and is rejected for the reasons stated above apropos of Claims 1, 2, and 10.

33. Claim 27 is essentially similar to Claim 1, 2, and 10 and is rejected for the reasons stated above apropos of Claims 1, 2, and 10.

34. Claim 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Fig. 1 in U.S. Patent No. 5477270 to Park in view of U.S. Patent No. 4807051 to Ogura.

35. Figure 1 discloses a camcorder with a conventional microphone that includes a central microphone, left microphone, and a right microphone. Figure 1 does not have plurality of microphone to have a gain adjust signal determined by selecting one of several microphone output based on head position. Ogura discloses a video camera having one microphone disposed in the front of the camera and another microphone disposed in the rear of the camera that automatically changed from one over to the other according to the object distance. The sensitivity of the microphone is adjusted according to the object distance, so that the sounds of an object to be photographed can be clearly recorded even in the event of a long object distance. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the camcorder of Figure 1 with the teaching Ogura to have one microphone disposed at the front disposed in the front of the camera and another microphone disposed in the rear of the camera that automatically changed from one

over to the other according to the object (i.e. head) distance. The sensitivity (i.e. volume controls) of the microphone is adjusted according to the object distance, so that the sounds of an object to be photographed can be clearly recorded even in the event of a long object distance (i.e. gain adjust signal determined by selecting one of several microphone output based on head position) (Fig. 1, reference 4 and 5; Figs. 3a, 3b, 4a, 4b, 5a, and 5b; column 1, lines 46-55; column 2, lines 52-65; column 3, lines 23-56; column 7, line 63 through column 8, line 16).

36. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park to U.S. Patent No. 6421064 to Lemelson et al (hereafter as Lemelson).

37. Figure 1 discloses all elements of Claim 29 except for a illumination-based pupil detector or a face detector. Lemelson discloses an eye tracking apparatus using a low power infrared laser or LED to provide and place a glint on the person's eye to enhance finding the center of the person's eye. The low power infrared laser or LED is couple to optics and the optics is couple to a camera. The camera is used to provided images of the head and the eye of a person, a zoom lens coupled to the camera for focusing the camera at the person, and optic coupled to the camera for aiding the camera in detecting or providing images of the head and eye of the person (Fig. 3C, references 26, 76, and 77; column 12, lines 31-36; column 4, lines 14-23 and lines 48-53).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the camcorder of Figure 1 with the teaching Lemelson to incorporate the eye tracking apparatus to the camcorder to provide and place a glint

Art Unit: 2644

on the person's eye to enhance finding the center of the person's eye which will zoom the camcorder.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P Chau whose telephone number is (703)305-4865. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on (703)305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

October 31, 2003



FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600